

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/944,174
Attorney Docket No.: Q65929

REMARKS

Claims 1-18 are all the claims pending in the application. By this Amendment, Applicant editorially amends claims 7 and 8. The amendments to claims 7 and 8 were made for reasons of precision of language and consistency, and do not narrow the literal scope of the claims and thus do not implicate an estoppel in the application of the doctrine of equivalents. The amendments to claims 7 and 8 were not made for reasons of patentability.

In addition, by this Amendment, Applicant adds claims 19-24. Claims 19-24 are clearly supported throughout the specification *e.g.*, page 7 of the specification.

Preliminary Matters

Applicant thanks the Examiner for accepting the drawings filed September 12, 2005. Applicant also thanks the Examiner for initialing the references listed on Form PTO/SB/08 A & B submitted with the Information Disclosure Statement filed on September 4, 2001.

The Examiner objected to claims 7 and 8 for a minor informality. Applicant has revised claims 7 and 8, and respectfully submits that the claims as now presented no longer include the potential informality mentioned by the Examiner. Applicant therefore respectfully requests the Examiner to withdraw the objections to claims 7 and 8.

Summary of the Office Action

Claims 1-4, 6-11, and 13 are rejected under 35 U.S.C. § 103(a). Claims 14-18 are allowed and claims 5 and 12 contain allowable subject matter.

Claim Rejection

Claims 1-4, 6-11, and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,963,557 to Eng (hereinafter “Eng”) in view of U.S. Patent No. 5,970,063 to Chapman (hereinafter “Chapman”). Applicant respectfully traverses these grounds of rejection in view of the following comments.

Claims 1 and its dependent claims 2, 3, and 9-11

To begin, independent claim 1, among a number of unique features, recites: “interrupting the transmission of transmit authorizations from the second transmitting/receiving device to the first transmitting/receiving device when the data packet is received, wherein contents of the received data packet are unrelated to the interruption of the transmit authorizations.”

The Examiner asserts that claim 1 is directed to a method of transmitting data from the first device to the second device and is obvious in view of the combined teachings of Eng and Chapman. The Examiner acknowledges that Eng does not disclose or suggest interrupting the transmission of transmit authorization when a data packet whose content is unrelated to the transmit authorization is received. The Examiner, however, alleges that Chapman cures the deficient teachings of Eng. Specifically, the Examiner alleges that Chapman’s polling signals disclose transmit authorizations and that Chapman’s acknowledgement signal discloses the data packet whose content is unrelated to the interruption of the transmit authorizations (*see* page 3 of the Office Action).

Applicant has carefully studied Chapman’s discussion of a method for delivering frames of a data communication from a transmitting entity to a receiving entity, which lacks having

authorization signals and interrupting the transmission of authorizations when data packet, whose content is unrelated to the interruption, is received.

Chapman discloses a base station 24 relaying a network poll message 100 over the air interface to the mobile station 18. Responsive to receipt of the poll message 100, the mobile station 18 sends an acknowledgment 102 back to the base station. This acknowledgment 102 is not, however, successfully received by the base station 24. The network then re-tries the poll message 100. Again, the mobile station 18 sends an acknowledgment 102 that is not received by the base station 24. After sending a predetermined number (n) of poll signals 100 and not receiving an acknowledgment 102 from the mobile station 18, the network sends a modified poll message 110 through the base station 24 to the mobile station 18 indicating an operative transition 112 of the data link supported by the air interface from the conventional acknowledged communications mode of operation to an unacknowledged communications mode. Responsive to receipt of the modified poll message 110, the mobile station 18 does not send an acknowledgment message 102 as before, but instead waits for the network to continue with the transmission of a group of frames 104 of the data communication relayed through the base station 24. Furthermore, the mobile station does not send an acknowledgment message 106, as before, with respect to each frame transmission. Following completion of the data communication transmission in the unacknowledged communications mode of the group of frames, the data link supported by the air interface transitions 114 back to its conventional acknowledged communications mode of operation. When the fading condition later subsides,

the network requests 116 that the mobile station confirm 118 the prior successful receipt of the transmitted group of frames 104 (Fig. 3; col. 3, line 58 to col. 4, line 27).

That is, in Chapman, in step 130, a poll message is sent to the mobile station. A determination is then made in step 132 as to whether an acknowledgment is received. If yes, the conventional acknowledged mode of operation for data communication frame delivery is executed in step 134. If no, a determination is made in step 136 as to whether n unsuccessful (i.e., unacknowledged) poll messages have been sent. If not, the process returns to step 130 to send another poll message. If yes, a modified poll message is sent to the mobile station in step 138 signaling an operative transition (step 140) of the data link supported by the air interface from the conventional acknowledged communications mode of operation to an unacknowledged communications mode. The network then begins to send in step 142 a group of frames of the data communication. No acknowledgment of the frame transmissions of step 142 is expected. Again, if desired, the modified poll message may be included in with the transmitted group of frames. The frames within the group are stored in step 144 (at a level above the data link) until such later time as delivery can be confirmed. Successful delivery of the group of frames is then confirmed when the fading condition later subsides and the stored frames are dropped in step 146 (Fig. 4; col. 4, lines 28 to 54).

However, the polling message of Chapman is an opposite of the authorizations, set forth in claim 1. That is, the polling message is sent by the sender. The polling message of Chapman is a request to transmit and not a transmit authorization. That is, in Chapman, the polling

message is sent by the device sending the frames and not by the receiving device authorizing the transmission of data.

Moreover, in Chapman, the transmission of the polling messages is stopped when an acknowledgement is received or when no acknowledgements are received after x number of tries. That is, the content of the acknowledgement (alleged data packet) is clearly related to the interruption of the polling messages at least because acknowledgement message indicates that the sender can start transmission of frames. In other words, the content of the acknowledgement message is directly related to the interruption of the polling messages and beginning of transmission. Also, the acknowledge message is a control message and not a data packet as required in claim 1.

Furthermore, if the Examiner alleges that the acknowledgment message of Chapman is the transmit authorizations, the acknowledgment messages of Chapman are not sent repeatedly until the data packet is received but rather in response to the polling message. Moreover, the receiver stops responding (sending acknowledgement messages) only when a modified polling message indicating that no acknowledgment is necessary is received. In other words, Chapman clearly fails to disclose or suggest interrupting the transmission of transmit authorizations when the data frame, whose contents are unrelated to the interruption of the transmit authorizations, is received.

Therefore, “interrupting the transmission of transmit authorizations from the second transmitting/receiving device to the first transmitting/receiving device when the data packet is received, wherein contents of the received data packet are unrelated to the interruption of the

transmit authorizations,” as set forth in claim 1 is not obvious over the combined teachings of Eng and Chapman, which lack a) interrupting the polling signals when an acknowledgement, whose contents is unrelated to the interruption, is received, b) having the polling signals authorize transmission, and c) having the acknowledgement message be a data packet whose content is unrelated to the interruption. For at least these exemplary reasons, Applicant respectfully submits that independent claim 1 is patentable over the combined teachings of Eng and Chapman. Applicant therefore respectfully requests the Examiner to withdraw this rejection of independent claim 1. Also, Applicant respectfully submits that claims 2, 3, and 9-11 are patentable at least by virtue of their dependency on claim 1.

In addition, claim 10 recites: “the second transmitting/receiving device automatically resumes the transmission of the transmit authorizations after a predetermined period of time, said transmission is resumed shortly before next data packet is expected to be sent from the first transmitting receiving device.” The Office Action does not address these unique features of claim 10. Applicant respectfully submits that both Eng and Chapman fail to disclose or suggest the receiver automatically resuming transmission of authorizations when the sender is about to send a data packet. For at least these additional exemplary reasons, claim 10 is patentable over the combined teachings of Eng and Chapman.

Claims 4, 6, and 13

Of these rejected claims 4, 6, and 13, only claim 4 is independent. Independent claim 4 requires, among a number of unique features:

wherein the first time period is shorter than
a second time period which adjoins the first
time period and in which no transmit

authorizations are sent to the second transmitting/receiving device.

The Examiner asserts that claim 4 is directed to a method for sending transmit authorizations from the first device to the second device and is obvious over the combined teachings of Eng and Chapman. The Examiner asserts that Eng's disclosure of the mini-time slots and time slots are equivalent to having a first time period adjoin a second longer time period in which no transmit authorizations are sent to the second device (*see* page 3 of the Office Action). Applicant respectfully disagrees. Applicant has carefully studied Eng's discussion of the mini-time slots and regular time slots, which are not similar to having first time period **adjoin** a second, longer time period in which no transmit authorizations are sent.

Eng teaches enabling a point-to-point and a multicast communication in a network using three types of communication channels, namely, one or more upstream payload channels, one or more upstream control channels and one or more downstream channels. At least the upstream control and upstream payload channels can carry bit streams simultaneously. A bit stream may be simultaneously carried on the upstream control and upstream payload channels of a shared medium during overlapping periods of time. Each channel is divided into slots or mini-slots (*see Abstract*; col. 3, lines 5 to 18; col. 8, lines 13 to 32).

Eng further teaches that two types of packets are transmitted in the upstream and downstream channels, namely, "payload" packets and "control" packets. Payload packets carry user messages or user data to be communicated to a destination. Control packets carry control messages for allocating portions of the communication channels or other overhead control information. The slave stations write control packets into mini-slots of the upstream channel and

write payload packets into slots of the upstream channel. The head end, the central controller, writes payload and control packets into slots of the downstream channel. For example, each slot of the downstream channel accepts a frame which includes one payload packet and one control packet because only the central controller writes control and payload packets into slots of the downstream channel (Fig. 3; col. 4, lines 17 to 32).

Eng, however, discloses a conventional technique where the downstream channel simply has regular slots for including payload and control data and where the upstream channel (one from the slave stations to the central controller) is split into mini slots and regular time slots. The slave stations write control packets into mini-slots of the upstream channel and write payload packets into the regular slots of the upstream channel. Eng fails to disclose having the mini slot **adjoin** the regular slot. In fact, it is simply not the focus of Eng's teachings. In one embodiment of Eng's invention, a separate channel for the mini-slots and a separate channel for the regular slots are provided (col. 11, lines 11, lines 8 to 14). In Eng, however, there is no disclosure or suggestion of the mini slot being adjacent to (following) the regular slot.

Chapman is unrelated to the duration of the time periods for transmitting messages and as such clearly fails to cure the deficient teachings of Eng.

Therefore, "the first time period is shorter than a second time period which adjoins the first time period and in which no transmit authorizations are sent to the second transmitting/receiving device," as set forth in claim 4 is not rendered obvious by the combined teachings of Eng and Chapman, which lack disclosing the mini-slot adjoining the regular slot. For at least this exemplary reason, Applicant respectfully submits that independent claim 4 is

patentable over the combined teachings of Eng and Chapman. Applicant therefore respectfully requests the Examiner to withdraw this rejection of independent claim 4. Also, Applicant respectfully submits that claims 6 and 13 are patentable at least by virtue of their dependency on claim 4.

In addition, claim 6 recites: “at least in a time slot of the second time period, transmitting authorizations to a third transmitting/receiving device.” As detailed above, Eng only teaches having an upstream channel split into mini-slots and regular slots but the control signals, *i.e.*, alleged authorization signals, are transmitted only in the mini-slots. Eng fails to teach or suggest **transmitting authorizations in the regular slot**, *i.e.*, the alleged second time period. Chapman fails to cure the deficient teachings of Eng. For at least this additional exemplary reason, Applicant respectfully submits that claim 6 is patentable over the combined teachings of Eng and Chapman.

Dependent claim 13 recites “the first transmitting/receiving device is a control center controlling the second transmitting/receiving device and wherein the second transmitting/receiving device is a terminal.” In Eng, the headend (alleged second transmitting/receiving device) controls the subscriber stations (alleged first transmitting/receiving device) and not vice versa. Furthermore, Eng discloses that the subscriber stations are data terminals (col. 2, lines 56 to 57) and not the control center. Moreover, Eng fails to teach or suggest the headend being a terminal. Chapman fails to cure the deficient teachings of Eng. For at least these additional exemplary reasons, claim 13 is patentable over the combined teachings of Eng and Chapman.

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Claims 7 and 8

Of these rejected claims 7 and 8, only claim 7 is independent. Independent claim 7 recite features similar to, although not necessarily coextensive with, the features argued above with respect to claim 1. Therefore, arguments presented with respect to claim 1 are respectfully submitted to apply with equal force here. For at least substantially analogous reasons, therefore, independent claim 7 is patentable over the combined teachings of Eng and Chapman. Therefore, it is appropriate and necessary for the Examiner to withdraw this rejection of claim 7. Claim 8 is patentable at least by virtue of its dependency.

Allowable Subject Matter

Applicant thanks the Examiner for allowing claims 14-18. The Examiner further indicated that claims 5 and 12 contain allowable subject matter. Applicant respectfully holds the rewriting of these claims in abeyance until arguments presented with respect to independent claim 1 have been reconsidered.

New Claims

In order to provide more varied protection, Applicant adds claims 19-24. Claims 19-24 are patentable at least by virtue of their dependency on claim 1, 4, or 7.


Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

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Respectfully submitted,



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